

**CLAIMS:**

1        1.    A blowout preventer comprising  
2                a body with a top, a bottom, and a bore therethrough  
3        from the top to the bottom,  
4                ram apparatus movable within the body, the ram  
5        apparatus including a ram block, and  
6                ram block holding apparatus pivotably secured  
7        exteriorly to the body, the ram block holding apparatus  
8        pivotable for selectively engaging and supporting the ram  
9        block and moving the ram block with respect to the body.

1        2.    The blowout preventer of claim 1 further comprising  
2                the body including at least one bonnet movably  
3        secured to the body, the at least one bonnet containing  
4        actuator apparatus for moving the ram block, and  
5                the ram block holding apparatus pivotably and  
6        releasably secured to the at least one bonnet.

1        3.    The blowout preventer of claim 1 wherein the ram block  
2        has a corresponding opening and the ram block holding apparatus  
3        includes

4                a mount connected to the body,  
5                a main bar pivotably connected to the mount,  
6                an arm secured to or formed integrally with the  
7        mount,  
8                the arm at an angle to the main body, and  
9                the arm sized and configured for receipt within the  
10        corresponding opening of the ram block.

1        4.    The blowout preventer of claim 1 wherein the movable ram  
2        apparatus has part thereof in a ram actuator housing projecting  
3        from the main body and wherein the ram block holding apparatus has  
4        a main support body, the ram block holding apparatus positionable  
5        so that the ram block holding apparatus main support body is  
6        substantially aligned with the ram actuator housing.

1        5.    The blowout preventer of claim 1 wherein the ram block  
2        holding apparatus is manually movable.

1           6.    The blowout preventer of claim 2 further comprising  
2                   at least one lock bar removably disposed in a lock  
3   bar recess, the lock bar recess defined by a first portion in  
4   the body and a second portion in the bonnet.

1           7.    The blowout preventer of claim 2  
2                   wherein the at least one bonnet includes a first  
3   bonnet on a first side of the main body and a second bonnet on  
4   a second side of the main body, the first bonnet opposed to  
5   the second bonnet, a first ram block adjacent the first  
6   bonnet, and

7                   the ram block holding apparatus movably secured  
8   exteriorly to the second bonnet for selectively engaging and  
9   supporting a second ram block adjacent the second bonnet.

1           8.    The blowout preventer of claim 7 wherein the ram block  
2   holding apparatus is selectively movable from its securement  
3   exteriorly to the second bonnet and is securable exteriorly to the  
4   first bonnet for holding the first ram block.

1           9.    The blowout preventer of claim 2 wherein the blowout  
2   preventer has bonnet movement apparatus connected thereto for the  
3   moving the at least one bonnet away from the body.

1           10.   The blowout preventer of claim 9 wherein the bonnet  
2   movement apparatus includes shaft apparatus projecting from the  
3   body, the at least one bonnet movable on the shaft apparatus.

1           11.   The blowout preventer of claim 1 wherein the movable ram  
2   apparatus is shear ram apparatus.

1           12.   A blowout preventer comprising  
2                   a body with a top, a bottom, and a bore therethrough  
3   from the top to the bottom,  
4                   ram apparatus movable within the body, the ram  
5   apparatus including a ram block,  
6                   ram block holding apparatus pivotably secured  
7   exteriorly to the body, the ram block holding apparatus  
8   pivotable for selectively engaging and supporting the ram  
9   block and moving the ram block with respect to the body,

the body including at least one bonnet movably  
secured to the body, the at least one bonnet containing  
actuator apparatus for moving the ram block,  
the ram block holding apparatus pivotably and  
releasably secured to the at least one bonnet,  
wherein the ram block has a corresponding opening  
and the ram block holding apparatus includes  
a mount connected to the body,  
a main bar pivotably connected to the mount,  
an arm secured to or formed integrally with the  
mount,  
the arm at an angle to the main body, and  
the arm sized and configured for receipt within the  
corresponding opening of the ram block,  
wherein the at least one bonnet includes a first  
bonnet on a first side of the main body and a second bonnet on  
a second side of the main body, the first bonnet opposed to  
the second bonnet, a first ram block adjacent the first  
bonnet,  
the ram block holding apparatus movably secured  
exteriorly to the second bonnet for selectively engaging and  
supporting a second ram block adjacent the second bonnet, and  
wherein the ram block holding apparatus is  
selectively movable from its securement exteriorly to the  
second bonnet and is securable exteriorly to the first bonnet  
for holding the first ram block.

13. The blowout preventer of claim 1 wherein the ram block  
holding apparatus comprises a plurality of pivotably connected bars  
one of which is pivotably connected to the body.

14. A method for supporting a ram block of a blowout  
preventer, the blowout preventer comprising a body with a top, a  
bottom, and a bore therethrough from the top to the bottom, ram  
apparatus with a ram block and movable within the body, and ram  
block holding apparatus pivotably secured exteriorly to the body,

6 the ram block holding apparatus pivotable for selectively engaging  
7 and supporting the ram block and moving the ram block with respect  
8 to the body, the method comprising

9           pivoting the ram block holding apparatus with  
10       respect to the body, and

11           engaging the ram block with the ram block holding  
12       apparatus.

1       15. The method of claim 14 wherein at least one bonnet is  
2 movably secured to the body, the at least one bonnet containing  
3 actuator apparatus for moving the ram block, and the ram block  
4 holding apparatus pivotably and releasably secured to the at least  
5 one bonnet, the method further comprising

6           moving the at least one bonnet to expose the ram  
7       block, and

8           pivoting the ram block holding apparatus with  
9       respect to the bonnet.

1       16. The method of claim 14 further comprising

2           removing the ram block away from the body on the ram  
3       block holding apparatus.

1       17. The method of claim 14 further comprising

2           removing the ram block from the ram block holding  
3       apparatus.

1       18. The method of claim 14 wherein at least one bonnet is  
2 movably secured to the body, the at least one bonnet containing  
3 actuator apparatus for moving the ram block, and the ram block  
4 holding apparatus pivotably and releasably secured to the at least  
5 one bonnet, wherein the at least one bonnet includes a first bonnet  
6 on a first side of the main body and a second bonnet on a second  
7 side of the main body, the first bonnet opposed to the second  
8 bonnet, a first ram block adjacent the first bonnet, and the ram  
9 block holding apparatus movably secured exteriorly to the second  
10 bonnet for selectively engaging and supporting a second ram block  
11 adjacent the second bonnet, and wherein the ram block holding  
12 apparatus is selectively movable from its securement exteriorly to

13 the second bonnet and is securable exteriorly to the first bonnet  
14 for holding the first ram block, the method further comprising

15 engaging the first ram block with the ram block  
16 holding apparatus and moving the first ram block away from the  
17 body, and

18 engaging the second ram block with the ram block  
19 holding apparatus.

1 19. The method of claim 14 wherein the ram block holding  
2 apparatus comprises a plurality of pivotably connected bars one of  
3 which is pivotably connected to the body, the method further  
4 comprising

5 pivoting the plurality of pivotably connected bars  
6 with respect to the body to position one of said bars for  
7 engagement with the ram block.

1 20. The method of claim 14 wherein the body including at  
2 least one bonnet movably secured to the body, the at least one  
3 bonnet containing actuator apparatus for moving the ram block, and  
4 the ram block holding apparatus pivotably and releasably secured to  
5 the at least one bonnet, and at least one lock bar removably  
6 disposed in a lock bar recess, the lock bar recess defined by a  
7 first portion in the body and a second portion in the bonnet, the  
8 method including

9 removing the at least one lock bar from the lock bar  
10 recess to free the at least one bonnet for movement.